



NIP-272

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

H. YAMAZAKI et al

Serial No. 10/092,897

Group Art Unit: 2878

Filed: March 8, 2002

For: INSPECTION DEVICE AND SYSTEM FOR INSPECTING FOREIGN  
MATTERS IN LIQUID FILLED IN TRANSPARENT CONTAINER

INFORMATION DISCLOSURE STATEMENT (IDS)  
UNDER § 1.97 AND § 1.98

Commissioner for Patents  
Washington, D.C. 20231

Sir:

1. This IDS should be considered:

(a) when filed within three months of the filing date of the present application, or within three months of the filing date of the National Stage as set forth in § 1.491 in an international application, or before the mailing date of a first Office Action on the merits, whichever occurs last;

(b) when filed before the mailing date of either a Final Rejection under § 1.113 or a Notice of Allowance under § 1.311, whichever occurs first and when 1(a) does not apply. For this purpose, there is included herein either a certification in section 4 below (included when indicated by a marked box), or a fee of \$180.00 (a check in the amount of \$180.00 is enclosed, or if not see section 5 below);

(c) when filed prior to the payment of the Issue Fee, when 1(a)-(b) do not apply, and when a certification is included in section 4 below (included when indicated by a marked box); then the Applicant(s) hereby petition(s) and request(s) consideration of this IDS, and provided herewith is

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a fee of \$180.00 (a check in the amount of \$180.00 to cover the petition fee, or if not see section 5 below).

2. When 1(a)-(c) do not apply, then it is requested that this IDS be placed in the file.

3. Listing of the information submitted is on the attached Form PTO-1449, which forms a part of this IDS. A copy of each listed document is enclosed.

4. The undersigned hereby states:

☒ (a) that each item of information contained in this IDS was first cited in any communication from a foreign patent office in a counterpart foreign application, as indicated on the copy of the communication submitted herewith, which communication was dated not more than three months prior to the filing of this IDS; or

☐ (b) that no item of information contained in this IDS was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned after making reasonable inquiry, was known to any individual designated in § 1.56(c) more than three months prior to the filing of this IDS.

5. If a fee or additional fee is required, the Commissioner is hereby authorized to charge any fee or additional fee that may be required and credit any excess to Deposit Account No. 50-1417.

6. No explanation of relevancy is being provided for the documents because they are in the English language and their relevance is as stated in a communication from a foreign patent office in a counterpart foreign application, copy enclosed.

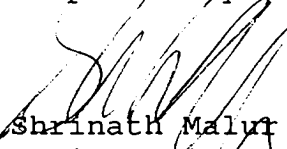
7. If the PTO determines that part(s) of the required content is inadvertently omitted, then it is requested that

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the Applicant(s) be given additional time and specific identification of such omission(s) to enable full compliance.

Respectfully submitted,



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FORM PTO-1449  
(REV. 7-80)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.

NIP-272

SERIAL NO.

10/092,897

## LIST OF DOCUMENTS CITED BY APPLICANT

(Use several sheets if necessary)

APPLICANT

H. YAMAZAKI et al

FILING DATE

March 8, 2002

GROUP

2878

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT	DATE	NAME	CLASS	SUBCLASS	FILING DATE (If Appropriate)
AA	5,442,446	08/15/95	Gerber et al			
AB	6,064,479	05/16/00	Knapp			
AC	4,551,627	11/05/85	Reich			
AD	5,523,560	06/04/96	Manique et al			
AE	4,335,960	06/22/82	Ashcroft et al			
AF	4,958,223	09/18/90	Juvinall et al			
AG						
AH						
AI						
AJ						
AK						

## FOREIGN PATENT DOCUMENTS

	DOCUMENT	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
AL						<input type="checkbox"/>	<input type="checkbox"/>
AM						<input type="checkbox"/>	<input type="checkbox"/>
AN						<input type="checkbox"/>	<input type="checkbox"/>
AO						<input type="checkbox"/>	<input type="checkbox"/>
AP						<input type="checkbox"/>	<input type="checkbox"/>

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

AR		
AS		
AT		

EXAMINER

DATE CONSIDERED

\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

30. Okt. 2002



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Europäisches  
Patentamt

Zweigstelle  
in Den Haag  
Recherchen-  
abteilung

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Patent Office

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des brevets

Département à  
La Haye  
Division de la  
recherche

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Patentanwälte  
Steinsdorfstrasse 10  
80538 München  
ALLEMAGNE

Datum/Date

29. 10. 02

Zeichen/Ref./Réf. 0318-57.898EP-C	Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°. 02005241.1 - -
Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire Hitachi Engineering Co., Ltd.	

## COMMUNICATION

The European Patent Office herewith transmits

- ☒ the European search report
- ☐ the declaration under Rule 45 EPC
- ☐ the partial European search report under Rule 45 EPC
- ☐ the supplementary European search report concerning the international application under Article 157(2) EPC relating to the above-mentioned European patent application. Copies of the documents cited in the search report are enclosed.

The following specifications given by the applicant have been approved by the Search Division :

- ☐ Abstract ☒ Title ☒ Figure
- ☐ The abstract was modified by the Search Division and the definitive text is attached to this communication.
- ☐ The following figure will be published with the abstract, since the Search Division considers that it better characterises the invention than the one indicated by the applicant.

Figure:

- ☒ Additional copy(copies) of the documents cited in the European search report.

01

## REFUND OF THE SEARCH FEE

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.



EPO Form 1507 02.93




DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Y	WO 90 13810 A (INT INTEGRATED SYSTEMS INC) 15 November 1990 (1990-11-15)	1,2,5,7, 8,10	G01N21/90 G01N21/31
A	* page 8, line 33 - page 12, line 11; figure 5 *	3,4,11, 12	
Y	US 5 536 935 A (KLOTZSCH HELMUT W ET AL) 16 July 1996 (1996-07-16)	1,2,7,8, 10	
A	* column 6, line 3 - column 9, line 19 * * column 18, line 32 - column 19, line 8; figure 4 *	3,4	
A	US 3 942 897 A (TAKAHASHI TOSHIO ET AL) 9 March 1976 (1976-03-09)	1-8,10, 11	
	* column 4, line 40 - column 6, line 36; figures 3,5 *		
A	US 4 664 525 A (TAGAYA RYOSAKU) 12 May 1987 (1987-05-12)	1-5,7,8, 10,11	
	* column 4, line 4 - column 5, line 62; figure 5 *		
Y	EP 0 303 175 A (KANEBO LTD) 15 February 1989 (1989-02-15)	1,2,5,7, 8,10	TECHNICAL FIELDS SEARCHED (Int.Cl.7) G01N
A	* column 6, line 23 - column 8, line 14; figures 7-9 *	3,4	
A	US 5 443 164 A (WALSH CASEY P ET AL) 22 August 1995 (1995-08-22)	1,2,5,7, 8,10	
	* column 4, line 4 - line 41; figures 1,3 *		
Y	US 5 442 446 A (GERBER STEPHEN M ET AL) 15 August 1995 (1995-08-15)	5	
A	* column 2, line 12 - column 4, line 19; figure 1 *	7,8,10	
	--- -/--		
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 11 October 2002	Examiner Stuebner, B
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

3  
EPO FORM 1503 03 82 (P04C01)



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Y	US 6 064 479 A (KNAPP JULIUS Z) 16 May 2000 (2000-05-16)	1,2	
A	* column 5, line 36 - column 8, line 13; figure 2 *	3,5,7,8, 10,11	
Y	--- US 4 551 627 A (REICH FREDERICH R) 5 November 1985 (1985-11-05)	2,8	
A	* column 4, line 61 - column 5, line 27; figure 5 *	12	
A	--- US 5 523 560 A (MANIQUE FLEMMING ET AL) 4 June 1996 (1996-06-04)	1-4,7-9, 12	
A	* column 10, line 65 - column 12, line 19; claim 11; figures 7A,7B *		
A	--- US 4 335 960 A (ASHCROFT RICHARD I ET AL) 22 June 1982 (1982-06-22)	5,7,8,10	TECHNICAL FIELDS SEARCHED (Int.Cl.7)
A	* abstract * * column 2, line 15 - line 54; figure 3 *		
A	--- US 4 958 223 A (JUVINALL JOHN W ET AL) 18 September 1990 (1990-09-18)	5,7,8,10	
	* column 4, line 17 - column 6, line 57; figures 1-5 *		
	-----		
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 11 October 2002	Examiner Stuebner, B
<div>CATEGORY OF CITED DOCUMENTS</div> <div>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</div> <div>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons &amp; : member of the same patent family, corresponding document</div>			

3  
EPO FORM 1503 03/82 (P04C01)



The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claim : 1; 3 and 4 (part)

Inspection device for detecting a foreign matter in liquid filled in a transparent container comprising:  
two irradiation light sources of different color,  
a color separation use mirror,  
first and second image taking means, and  
image processing means.

2. Claim : 2; 3 and 4 (part)

Inspection device for detecting a foreign matter in liquid filled in a transparent container comprising:  
two irradiation light sources of different color,  
a half mirror,  
first and second filter,  
first and second image taking means, and  
image processing means.

3. Claims: 5,6,9(part)

Inspection device for detecting a foreign matter in liquid filled in a transparent container comprising:  
two irradiation light sources adjacent each other,  
image taking means, and  
detection means.

4. Claims: 7,9(part)

Inspection device for detecting a foreign matter in liquid filled in a transparent container comprising:  
two irradiation light sources adjacent each other and of different color,  
color separation use mirror,  
first and second image taking means, and  
image processing means.

5. Claims: 8,9(part)

Inspection device for detecting a foreign matter in liquid filled in a transparent container comprising:  
two irradiation light sources adjacent each other and of different color,  
a half mirror,  
first and second filter,  
first and second image taking means, and  
image processing means.





The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

6. Claims: 10-13

Inspection device for detecting a foreign matter in liquid filled in a transparent container comprising:  
two irradiation light sources adjacent each other and of linear shape,  
an inspection use sensor means, and  
image processing means.



### CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

### LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 02 00 5241

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

11-10-2002

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
WO 9013810	A	15-11-1990	WO	9013810 A1	15-11-1990
			AU	3542289 A	03-11-1989
			AU	3672193 A	03-06-1993
			BR	8907370 A	26-03-1991
			DK	248689 A	19-10-1989
			EP	0409898 A1	30-01-1991
			ES	2010924 A6	01-12-1989
			IN	171216 A1	15-08-1992
			JP	4501310 T	05-03-1992
			MX	171659 B	10-11-1993
			NO	904417 A	12-10-1990
			WO	8909931 A1	19-10-1989
			US	4998824 A	12-03-1991
			US	5002397 A	26-03-1991
			ZA	8902598 A	28-12-1990
US 5536935	A	16-07-1996	US	5510620 A	23-04-1996
			US	5528036 A	18-06-1996
			EP	0749569 A1	27-12-1996
			WO	9522752 A1	24-08-1995
			WO	9522756 A1	24-08-1995
			US	5486693 A	23-01-1996
			WO	9522755 A1	24-08-1995
			ZA	9501278 A	29-01-1996
			ZA	9501279 A	23-10-1995
US 3942897	A	09-03-1976	JP	50011094 A	04-02-1975
			JP	929150 C	17-10-1978
			JP	49067694 A	01-07-1974
			JP	53006875 B	11-03-1978
			CA	993220 A1	20-07-1976
			CH	569272 A5	14-11-1975
			DE	2354611 A1	09-05-1974
			DK	150995 B	05-10-1987
			ES	420076 A1	01-03-1976
			ES	429564 A1	16-01-1977
			FR	2211125 A5	12-07-1974
			GB	1445148 A	04-08-1976
			IT	1019557 B	30-11-1977
			NL	7314972 A	02-05-1974
			SE	427586 B	18-04-1983
			SE	7612850 A	17-11-1976
			US	3900266 A	19-08-1975
			BE	806680 A1	15-02-1974

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 02 00 5241

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The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

11-10-2002

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 4664525	A	12-05-1987	JP	1741351 C	15-03-1993
			JP	4026423 B	07-05-1992
			JP	60205337 A	16-10-1985
			AT	57260 T	15-10-1990
			CA	1234610 A1	29-03-1988
			DE	3579928 D1	08-11-1990
			EP	0156346 A2	02-10-1985
			MX	158299 A	20-01-1989
EP 0303175	A	15-02-1989	JP	1291110 A	22-11-1989
			JP	1802260 C	26-11-1993
			JP	5012641 B	18-02-1993
			JP	1038640 A	08-02-1989
			JP	1822846 C	10-02-1994
			JP	5035986 B	27-05-1993
			JP	1143947 A	06-06-1989
			JP	1858738 C	27-07-1994
			JP	5075351 B	20-10-1993
			DE	3887937 D1	31-03-1994
			DE	3887937 T2	07-07-1994
			EP	0303175 A2	15-02-1989
			US	4912318 A	27-03-1990
US 5443164	A	22-08-1995	AU	7202094 A	28-02-1995
			WO	9504612 A1	16-02-1995
US 5442446	A	15-08-1995	AU	693908 B2	09-07-1998
			AU	2854695 A	29-02-1996
			BR	9503718 A	16-04-1996
			CA	2156023 A1	20-02-1996
			CN	1127357 A	24-07-1996
			EP	0697592 A1	21-02-1996
			JP	3011397 B2	21-02-2000
			JP	8178869 A	12-07-1996
			PL	310069 A1	04-03-1996
			ZA	9506871 A	22-03-1996
US 6064479	A	16-05-2000	US	5940176 A	17-08-1999
US 4551627	A	05-11-1985	NONE		
US 5523560	A	04-06-1996	AT	121841 T	15-05-1995
			AU	655454 B2	22-12-1994
			AU	1233492 A	07-09-1992
			CA	2100776 A1	02-08-1992
			DE	69202242 D1	01-06-1995

EPO FORM P459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 02 00 5241

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The members are as contained in the European Patent Office EDP file on  
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11-10-2002

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5523560      A		DE 69202242 T2	31-08-1995
		WO 9214142 A1	20-08-1992
		DK 569464 T3	04-09-1995
		EP 0569464 A1	18-11-1993
		FI 933414 A	30-07-1993
		HU 70248 A2	28-09-1995
		JP 3193377 B2	30-07-2001
		JP 6505333 T	16-06-1994
		KR 225088 B1	15-10-1999
		NO 932744 A	30-07-1993
US 4335960      A	22-06-1982	AT 3469 T	15-06-1983
		AU 5856780 A	27-11-1980
		DE 3063280 D1	07-07-1983
		EP 0019489 A1	26-11-1980
		GB 2052735 A ,B	28-01-1981
US 4958223      A	18-09-1990	AU 613516 B2	01-08-1991
		AU 4069489 A	02-04-1990
		CA 1315390 A1	30-03-1993
		DK 119090 A	14-05-1990
		EP 0438417 A1	31-07-1991
		JP 3500092 T	10-01-1991
		PH 26987 A	28-12-1992
		WO 9002937 A1	22-03-1990
		ZA 8906602 A	30-05-1990